What is claimed is:

1.   An image processing method approximating a small region on a color image with specific number of representative colors, which comprising the steps of:

5   calculating a statistic of each data per color composing the small region;

selecting one color among the above colors as a target color according to the statistic, and dividing the small region into two sections according to a specific reference of the color data of the target color; and

10   extracting respective representative colors for two sections.

2.   An image processing method according to claim 1, which comprising the step of setting the sections as the small regions if the number of sections is less than the specific number.

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3.   An image processing method according to claim 1, wherein the statistic is a variance, while the reference is an average of color data of the target color.

20   4.   An image processing method according to claim 1, wherein the representative color is an average of each color data of picture element included in the section.

5.   An image processing method according to claim 1, which

25   comprising the more steps of:

detecting the color difference among each color data included in the small region; and

determining the specific number according to the color difference.

6. An image processing method according to claim 1, which comprising the more steps of:

extracting the number of colors included in the small region; and

setting the extracted number of colors as the specific number when the extracted number of colors is less than the specific number comparing each number of colors.

7. An image processing method including the step of approximating a small region on a color image with specific number of representative colors, which comprising the steps of:

detecting the color difference of each color data included in the small region; and

determining the specific number according to the color difference.

8. An image processing method including the step of approximating a small region on a color image with specific number of representative colors, which comprising the steps of:

extracting the number of colors included in the small region; and

setting the extracted number of colors as the specific number when the extracted number of color is less than the specific number comparing each number of colors.

9.   An image processing method including the step of approximating a small region on a color image with specific number of representative colors, which comprising the steps of:

preparing region color data, which is a pair of the color data of
5   the representative colors prepared by the approximating and region information indicating a section including picture elements of the small region approximated with each representative color; and

increasing the number of representative colors sequentially.

10   10.   An image processing method according to claim 9, which comprising the more step of preparing a displayed image for a user from the region color data by selecting the number of the representative color.

11.   An image processing method according to claim 9, which
15   comprising the more step of transmitting the region color data by increasing the number of the representative colors sequentially.

12.   An image processing method according to claim 9, which comprising the steps of:
20   receiving the region color data by increasing the number of the representative color sequentially; and

displaying the color image for a user by increasing the number of the representative color sequentially per the receiving.

25   13.   An image processing method according to claim 9, which comprising the steps of:

setting the number of colors enough to display the image for a user;

extracting plural representative colors from the region color data corresponding to the required number of colors; and

5 deriving the color data of the displayed image according to the plural representative colors.

14. An image processing method including the step of approximating a small region on a color image with specific number of

10 representative colors, which comprising the steps of:

switching the color mode and the monochrome mode;

selecting a specified color data in the monochrome mode;

dividing the small region into two sections according to the reference value of the selected color data; and

15 when the number of sections is less than the specific number, setting the sections as the small region

15. An image processing method according to claim 14, wherein the reference value is an average.

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16. An image processing apparatus approximating a small region on a color image with specific number of representative colors, which comprising:

statistic calculating means for calculating a statistic of each

25 color data of the small region;

dividing means for dividing the small region into two sections according to a specific reference together with selecting one color among the above colors as a target color according to the statistic; and

representative-color extracting means for extracting respective

5 representative colors for two sections.

17. An image processing apparatus according to claim 16, which comprising setting means for setting the section as the small region when the number of sections is less than the specific number.

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18. An image processing apparatus according to claim 16, wherein the statistic is a variance, and the reference is an average of the color data.

15 19. An image processing apparatus according to claim 16, wherein the representative color is an average of each color data of picture elements included in the section.

20. An image processing apparatus according to claim 16, which

20 comprising:

color-difference detecting means for detecting the color difference among color data included in the small region; and

number-of-representative-color determining means for determining the specific number according to the color difference.

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21. An image processing apparatus according to claim 16, which comprising:

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number-of-color extracting means for extracting the number of colors included in the small region; and

number-of-representative-color setting means for, when the extracted number of colors is smaller than the specific number by
5   comparing the number of colors, setting the extracted number of colors as the specific number.

22.   An image processing apparatus including the approximating means for approximating a small region on a color image with the
10   specific number of representative colors, which comprising:

color-difference detecting means for detecting the color difference among color data included in the small region; and

number-of-representative-color determining means for determining the specific number according to the color difference.
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23.   An image processing apparatus including the approximating means for approximating a small region on a color image with specific number of representative colors, which comprising

number-of-color extracting means for extracting the number of
20   colors included in the small region; and

number-of-representative-color setting means for, when the extracted number of color is less than the specific number comparing the number of colors, setting the extracted number of color as the specific number.

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24.   An image processing apparatus including the approximating means for approximating a small region on a color image with specific number of representative colors, which comprising:

region-color-data preparing means for preparing a region color data combining the color data of the representative color prepared by the approximating and region information indicating a section including picture elements in the small region approximated with the representative color by increasing the number of representative colors sequentially..

25.   An image processing apparatus according to claim 24, which comprising displayed image preparing means for preparing a displayed image for a user from the region color data by selecting the number of the representative colors.

26.   An image processing apparatus according to claim 24, which comprising transmitting means for transmitting the region color data by increasing the number of the representative colors sequentially.

27.   An image processing apparatus according to claim 24, which comprising:

receiving means for receiving the region color data by increasing the number of the representative colors sequentially; and

displaying means for displaying the color image for a user by increasing the number of the representative colors sequentially at the time of the receiving.

28.   An image processing apparatus according to claim 24, which comprising:

number-of-color setting means for setting the number of colors enough to display the image for a user;

5   representative-color extracting means for extracting plural representative colors from the region color data corresponding to the required number of colors; and

displayed-color deriving means for deriving the color data of the displayed image by combining the plural representative colors.

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29.   An image processing apparatus including the approximating means for approximating a small region on a color image with specific number of representative colors, which comprising:

mode switching means for switching the color mode and the

15   monochrome mode; and

color data selecting means for selecting a specific color data in the monochrome mode;

dividing means for dividing the small region into two sections according to the reference value of the selected color data; and

20   when the divided number of sections is less than the specific number, setting means for setting the sections as the small region

30.   An image processing apparatus according to claim 29, wherein the reference value is an average.

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31.   An image processing apparatus provided with a transmitting device dividing a color image into small regions and transmitting them,

and a receiving device receiving the color data of the small region and restoring and displaying the color image corresponding to the color data, wherein,

the transmitting device comprising:

approximating means for approximating the small region with plural representative colors;

region-color-data preparing means for preparing a region color data combining the color data of the representative color prepared by the approximating and region information indicating a section including picture elements in the small region approximated with each representative color; and,

transmitting means for transmitting the region color data, and,

the receiving device comprising:

receiving means for receiving the region color data by increasing the number of the representative colors sequentially; and

displaying means for displaying the color image for a user by increasing the number of the representative colors sequentially at the time of the receiving.

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